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ABSTRACT

All upstream messages that are desired to be sent from one of a plurality of settop terminals sharing a common upstream channel are segmented into data packets through an adaptation layer before sending into the upstream channel by a settop terminal, using the present invention using a hybrid of contention and reservation methodologies. If the upstream message is lengthy, a user settop terminal can request and gain exclusive control over the upstream channel and transmit the message using a reservation and self-acknowledging mechanism. In accordance with the present invention, a combination reservation mechanism and calculation method to optimize random backoff time for upstream transmission is added to conventional contention based Media Access Control methods and this embodiment to substantially enhance performance.